

CHAPTER 12 OE DETECTION AND REMOVAL

12-1. Introduction.

a. This chapter discusses the OE removal action tasks that occur following the receipt of the Notice-to-Proceed.

b. The removal action is intended to permanently and comprehensively address both short and long-term health and safety hazards at OE contaminated sites. The removal action may be implemented using active duty military personnel, DOD civilian personnel, private contractors, or a combination of the three. The implementing agency will be responsible for full coordination of all activities, including procurement, funding, scheduling, and authorizations.

c. The removal action phase is composed of the following tasks, which are illustrated in Figure 12-1 and discussed below.

- (1) Location surveys and mapping.
- (2) Area preparation.
- (3) OE surface removal.
- (4) Geophysical investigation.
- (5) OE subsurface removal.
- (6) OE destruction.
- (7) OE scrap disposition.
- (8) Demobilization.

12-2. Location Surveys and Mapping. Location surveys and mapping will be performed by the UXO contractor to establish boundaries of the areas under investigation. The procedures for the execution of location surveys and mapping are discussed in Chapter 21.

12-3. Area Preparation.

a. Prior to the initiation of an OE removal action, brush clearance may be required. The purpose of brush clearance is to reduce or remove the vegetative growth from the work areas in order to effectively locate, investigate, and remove surface and subsurface OE.

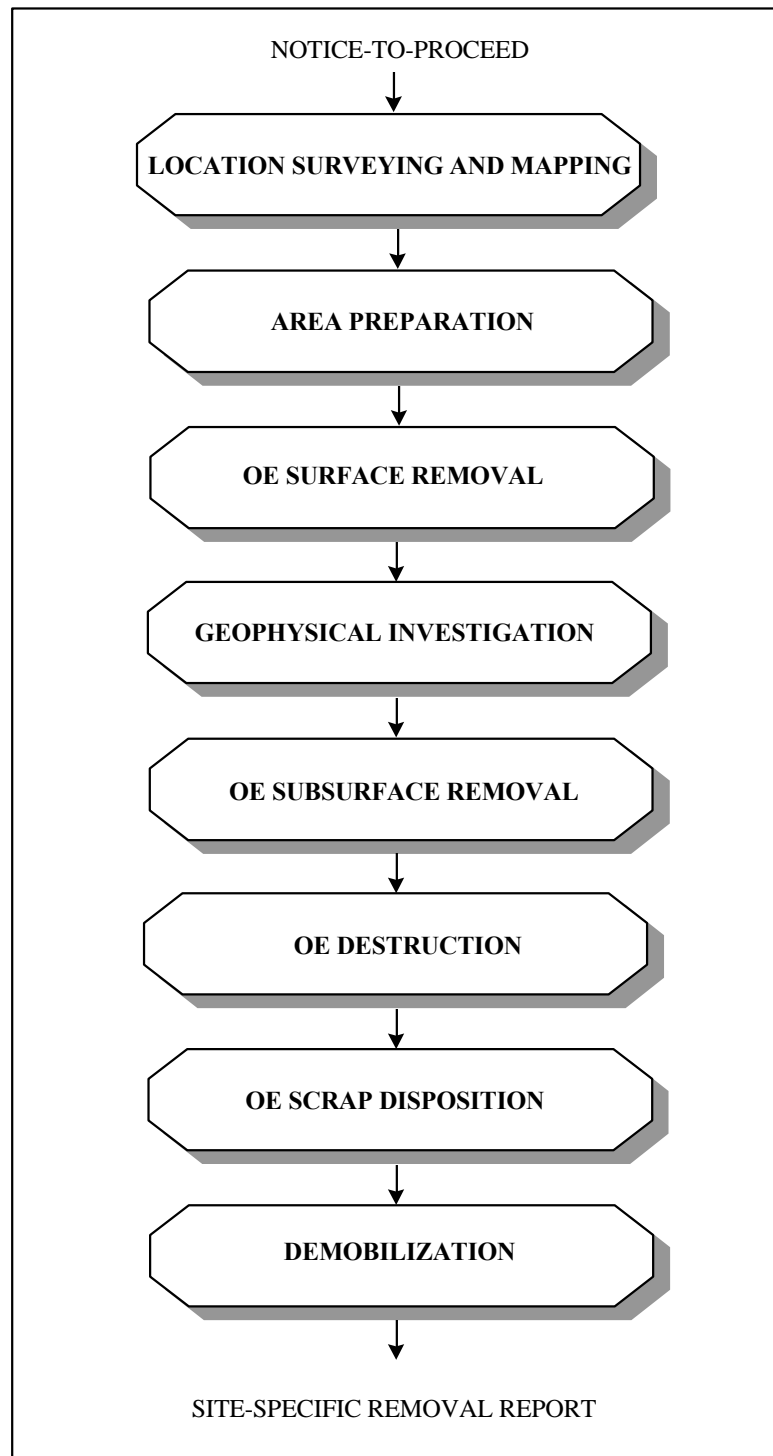


Figure 12-1. Removal Action Process

b. The areas cleared and techniques used must be coordinated with the district environmental staff and documented in the Work Plan. A UXO Technician II must always escort the brush clearing crew in areas not previously cleared of OE. The safety requirements in EM 385-1-1 must be followed. PPE will be provided to the brush clearance crew and used as required for protection. All brush clearance personnel must be trained in the safe operation of the equipment and must have obtained site-specific safety training in accordance with Chapter 24.

12-4. OE Surface Removal. OE surface removals are conducted to remove all OE from the surface of the work area. UXO qualified personnel will flag, identify, and record the approximate location of all discovered OE for subsequent destruction. In addition, all OE scrap and non-OE related materials that may interfere with the geophysical investigation should be collected and stored for later disposition.

12-5. Geophysical Investigation. The purpose of the geophysical investigation is to acquire geophysical data and identify all anomalies which resemble UXO/OE. Geophysical investigations may be completed using detection equipment with real time or post-processing discrimination techniques. The latter requires the collection and recording of geophysical data which is subsequently processed by commercial software to identify electronic signals representative of anomalies. All anomalies selected for excavation will be mapped, documented on dig-sheets, physically re-established by precise survey methods, and marked for investigation. Information on the elements which must be considered when planning and executing a geophysical investigation is provided in Chapter 21.

12-6. OE Subsurface Removal.

a. Intrusive activities are conducted to investigate and identify the source of each subsurface anomaly. Anomalies deeper than 12 inches may be excavated using mechanical or manual methods. Only approved UXO personnel will perform excavations. All excavations will be performed in accordance with the provisions of 29 CFR 1926, subpart P.

b. After the probable source of the subsurface anomaly is removed, the excavation will be rechecked with a magnetometer or other ordnance detector prior to backfilling. If the location does not produce another anomaly upon the recheck, then the excavated area will be backfilled and restored in accordance with contract requirements. If a UXO item is recovered, the location will be marked and the item disposed of in accordance with project approved procedures.

c. Evacuations. Evacuations are sometimes necessary when conducting intrusive investigations in order to minimize the risk of the operation. An exclusion zone distance is calculated to ensure that all non-essential personnel are outside of that distance during the conduct of the excavation. The exclusion zone distance can be reduced by implementing engineering controls. The use of engineering controls is presented in Chapter 21.

d. Other considerations. There are several other considerations which must be accounted for during the intrusive investigation, including: explosives storage, engineering controls, exclusion zone management, disposal and transportation of OE, and quality assurance. These topics are discussed in detail in later chapters of this document.

12-7. OE Destruction.

a. Destruction of recovered OE can take one of three forms: in-place; on-site; and off-site. The decision regarding which technique to use is based on the risk involved in employing the disposal operation as determined by site-specific characteristics and the nature of the OE recovered. Additional information on OE disposal operations can be found in TM60A-1-1-31, Explosive Ordnance Disposal Procedures.

(1) In-Place Destruction. In-place destruction (blow-in-place) is a technique used when an OE item cannot be safely moved to an alternate location for destruction. All in-place destructions will be conducted in a manner that assures maximum control of the site. When this technique is employed, engineering controls are often used to minimize the blast effects. Information on the use of engineering controls is presented in Chapter 21.

(2) On-Site Destruction.

(a) If OE is recovered in close proximity to occupied buildings, it may not be possible to safely destroy the OE item in place. In this instance, the OE item may be moved to a remote part of the project site where destruction and disposal can safely take place. When an OE item is destroyed on-site, engineering controls are often used to minimize the blast effect. Information of the use of engineering controls is presented in Chapter 21.

(b) Guidance for the on-site destruction of OE is published in EP 1110-1-17, Establishing a Temporary Open Burn/Open Detonation Site for Conventional OE.

(3) Off-Site Destruction.

(a) If transported off-site for destruction, the OE will be transported by either military vehicles or by a qualified UXO contractor. The OE is typically transported to an active military installation where it can be safely destroyed.

(b) The transportation of OE will be performed in accordance with the provisions of 49 CFR Part 172, applicable state and local laws, and Chapter 15 of this pamphlet. A Transportation Plan detailing the route and procedures to be used during the transportation of OE will be prepared and approved prior to engaging in any off-site OE transport to ensure all safety aspects of the movement have been addressed.

12-8. OE Scrap Disposal. The fragments and components from the on-site or in-place destruction of OE items will be gathered, inspected, and turned-in as OE scrap. Contact the OE MCX for additional information on the disposal of OE scrap.

12-9. Demobilization.

a. Demobilization may occur for a variety of reasons, including:

- (1) The project may be completed with all work accomplished.
- (2) The project may be incomplete, but the contractor has expended most of the contract funds.
- (3) Adverse weather conditions.
- (4) Determination that continuing in the present course of action is not in the best interest of the government.

b. A demobilization plan will be developed, as a part of the Work Plan, by the contractor in close coordination with the PM, OE Design Center, OE Safety Specialists, and the customer. Authorization to demobilize from a site must be issued in writing to the contractor from the CO.